AMENDMENTS TO THE CLAIMS

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

Listing of Claims:

1.-3. (Cancelled).

4. (Currently Amended) A selective retransmission method, comprising:

(a) transmitting packets of an MPEG-2 frame in real-time, the packets of the MPEG-2 frame including one or more I-frame packets and one or more non I-frame packets;

(b) checking for any transmission error in the transmitted one or more I-frame packets and determining a number of non-received I-frame packets resulting from a transmission error ~~of an I-frame~~; and

(c) if any transmission error is generated, prior to transmission of subsequent packets of a subsequent MPEG-2 frame including one or more subsequent I-frame packets and one or more subsequent non I-frame packets, discarding a number of the subsequent non I-frame packets equal to the number of non-received I-frame packets resulting from the transmission error, and retransmitting ~~only~~ the non-received I-frame packets ~~of the I-frame, without a corresponding number of non-I-frame packets for a~~ as part of the subsequent packets of the subsequent MPEG-2 frame in place of the discarded subsequent non I-frame packets.

5. (Currently Amended) The method as claimed in claim 4, ~~wherein in (c),~~ further comprising during real-time transmission of the packets of the MPEG-2 frame, packets belonging to the I-frame are transmitted in an automatic retransmission request (ARQ) interval, and packets not belonging to the I-frame are transmitted in a non-automatic retransmission request (non-ARQ) interval.

6. (Original) A selective retransmission method for transmitting data of an MPEG-2 frame, comprising:

(a) allowing a transmitting side medium access control (MAC) layer to transmit packets belonging to an I-frame to a receiving side MAC layer;

(b) after all packets belonging to the I-frame are transmitted, allowing the receiving side MAC layer to output to the transmitting side MAC layer a retransmission request for non-received packets due to any transmission error generated during transmission of the packets;

(c) allowing the transmitting side MAC layer, which received the retransmission request, to discard a number of packets of a B-frame following the I-frame, wherein the number of discarded packets of the B-frame equals a number of packets subject to the retransmission request; and

(d) retransmitting the packets subject to the retransmission request.

7. (Original) A selective retransmission method, by which a transmitting side medium access control (MAC) layer transmits packets of an MPEG-2 frame, comprising:

(a) determining whether a packet, to be currently transmitted by the transmitting side MAC layer, belongs to an I-frame;

(b) if the packet does not belong to the I-frame, transmitting the packet as is, and if the packet belongs to the I-frame, determining whether the packet is a start packet of the I-frame;

(c) if the packet is the start packet of the I-frame, transmitting to a receiving side MAC layer an automatic retransmission start message including the number of packets belonging to the I-frame; and

(d) preparing a buffer for use in an automatic retransmission request (ARQ) mode and transmitting the packets with their respective sequence numbers.

8. (Original) The selective retransmission method as claimed in claim 7, wherein (c) comprises:

(c1) if the packet is not the start packet of the I-frame, transmitting the packets with their respective sequence numbers;

(c2) determining whether the packet is an end packet of the I-frame;

(c3) if the packet is the end packet of the I-frame, performing retransmission of the packet; and

(c4) if the packet is not the end packet of the I-frame, starting the ARQ mode to transmit a next packet of an I-frame.

9. (Original) A selective retransmission method, by which a transmitting side medium access control (MAC) layer transmits packets of an MPEG-2 frame, comprising:

(a) starting an automatic retransmission request (ARQ) mode, and receiving a retransmission message of an MPEG-2 frame and sequence numbers of packets requiring retransmission, from a receiving side MAC layer;

(b) receiving the retransmission message and the sequence numbers, determining whether any packets require retransmission, and if any packet requires retransmission, discarding a number of packets of a B-frame during a transmission standby state, wherein the number of discarded packets of the B-frame equals a total number of packets requiring retransmission; and

(c) determining whether the number of the packets of the B-frame is less than the total number of packets requiring retransmission, and if the number of packets of the B-frame is

not less than the total number of packets requiring retransmission, then retransmitting the packets and awaiting a next retransmission message.

10. (Original) The method as claimed in claim 9, wherein in (b), if no packet requires retransmission, terminating an ARQ mode.

11. (Original) The method as claimed in claim 9, wherein in (c), if the number of packets of the B-frame is less than that of the packets requiring retransmission, terminating an ARQ mode.

12. (Previously Presented) The method as claimed in claim 6, wherein transmitting the retransmission request comprises:

initializing a selective automatic retransmission request (ARQ) operation mode;

receiving a selective automatic retransmission request (ARQ) start message, and allowing the receiving side MAC layer to prepare a retransmission buffer with a window size equal to a number of packets belonging to the I-frame, which is included in the selective ARQ start message and transmitted from the transmitting side MAC layer;

setting the selective ARQ operation mode, estimating transmission time of all packets in the I-frame using information regarding the number of packets requiring retransmission, and setting a timer value;

determining whether the set time has elapsed, and if the set time has elapsed, determining whether all packets of the I-frame have been received; and

if all packets are not received, analyzing sequence numbers of the packets received during the set period of time, and transmitting a retransmission request message including

sequence numbers of the packets not received, and resetting a buffer and a timer value for automatic retransmission request (ARQ) mode.

13. (Previously Presented) The method as claimed in claim 12, wherein, if all packets are received and no packet requires retransmission, further comprising:

transmitting a retransmission message including no sequence numbers (NULL); and

terminating the ARQ mode.

14. (Previously Presented) A computer readable medium having embodied thereon a computer program for the method according to claim 4.

15. (Currently Amended) A selective retransmission apparatus, in which a receiving side medium access control (MAC) layer receives packets of an MPEG-2 frame from a transmitting side MAC layer, comprising:

a frame detector adapted to detect whether a frame type of the packet is an I-frame;

a transmission error detector adapted to detect any non-received I-frame packets due to any transmission error generated during transmission of the I-frame packets; and

a retransmission function unit adapted to output to the transmitting side MAC layer a retransmission message and sequence number information of the non-received I-frame packets if any transmission error exists, and to receive the non-received I-frame packets through retransmission by the transmitting side MAC layer in place of an equal number of subsequent non I-frame packets of a subsequent MPEG-2 frame ~~without a corresponding number of packets of other frame types for a subsequent I-frame through retransmission by the transmitting side MAC layer~~.

16. (Currently Amended) The apparatus as claimed in claim 15, wherein the ~~other frame types includes a~~ non I-frame packets include B-frame packets or [[a]] P-frame packets of the subsequent MPEG-2 frame.

17. (Cancelled).

18. (Previously Presented) The apparatus as claimed in claim 15, wherein the retransmission function unit includes a retransmission buffer with a window size equal to a number of packets belonging to the I-frame.

19. (Currently Amended) The apparatus as claimed in claim 15, wherein, when a number of non-received I-frame packets exceeds [[a]] the number of subsequent non I-frame packets ~~of other frame types~~, the retransmission function unit ends retransmission.

20. (Previously Presented) The method as claimed in claim 9, wherein transmitting the retransmission request comprises:

allowing the receiving side MAC layer to prepare a retransmission buffer with a window size equal to a number of packets belonging to an I-frame transmitted from the transmitting side MAC layer;

estimating transmission time of all packets in the I-frame using information regarding a number of packets requiring retransmission, and setting a timer value;

determining whether the set time has elapsed, and if the set time has elapsed, determining whether all packets of the I-frame have been received; and

if all packets are not received, analyzing sequence numbers of the packets received during the set time, and transmitting a retransmission request message including sequence numbers of the packets not received, and resetting a buffer and a timer value.

21. (Previously Presented) The method as claimed in claim 20, wherein, if all packets are received and no packet requires retransmission, further comprising:

transmitting a retransmission message including no sequence numbers (NULL); and

terminating the ARQ mode.